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EXAMINER

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/573,873  
Filing Date: March 29, 2006  
Appellant(s): ENTWISTLE ET AL.

Marina F. Cunningham  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 6/9/2009 appealing from the Office action mailed 9/8/2009.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows: Claim 8 was inadvertently included in the 102(b) rejection in the final Office action mailed 9/8/2008. Claim 8 is no included in the 103(a) rejection below.

**NEW GROUND(S) OF REJECTION**

Claim 8 was inadvertently included in the 102(b) rejection in the final Office action mailed 9/8/2008. Claim 8 is no included in the 103(a) rejection over U.S. Pat. No. 5,687,759 (Tan) in view of U.S. Pat. No. 4,025,045 (Kubiak).

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

<b>5,687,759</b>	<b>TAN</b>	<b>11-1997</b>
<b>4,025,045</b>	<b>KUBIAK</b>	<b>5-1977</b>

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-5, 9, and 10 rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,687,759 (Tan).

Tan discloses a valve arrangement comprising an inlet connection (14), an outlet connection (16), a flow path (24), a closing device (60, 22), a valve seat (22), a valve element (60), a resetting device (66), a first pressure chamber (26), a second pressure chamber (32), a channel arrangement (56, 58), at least one auxiliary valve (82), a throttle (48), a suction nozzle arrangement (36, 38, 40), at least one suction nozzle (38), bordering wall (36), wherein the suction nozzle arrangement (36, 38, 40) blocks (at least partially) into the channel (56, 58), wherein the suction nozzle arrangement (36, 38, 40) is connected to the housing (12) in at least two positions (near the upper portion of element 38 and near the lower portion of element 38), a body (38), a pilot valve seat (upper surface of element 38), an annular nozzle (inside surface of element 38), and a reduced (threaded section near the end of element 16 has an increased cross section) cross section (16).

### **NEW GROUND(S) OF REJECTION**

Claims 6, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,687,759 (Tan) in view of U.S. Pat. No. 4,025,045 (Kubiak).

Tan discloses a valve arrangement comprising an inlet connection (14), an outlet connection (16), a flow path (24), a closing device (60, 22), a valve seat (22), a valve element (60), a resetting device (66), a first pressure chamber (26), a second pressure chamber (32), a channel arrangement (56, 58), at least one auxiliary valve (82), a throttle (48), a suction nozzle arrangement (36, 38, 40), at least one suction nozzle (38), bordering wall (36), wherein the suction nozzle arrangement (36, 38, 40) blocks (at least partially) into the channel (56, 58), wherein the suction nozzle arrangement (36, 38, 40) is connected to the housing (12) in at least two positions (near the upper portion of element 38 and near the lower portion of element 38), a body (38), a pilot valve seat (upper surface of element 38), a pipe (36), an annular nozzle (inside surface of element 38), a front side channel (56), wherein the pipe (36) is located in the area (figure 1) of a diameter of the outlet connection (16), and a reduced (threaded section near the end of element 16 has an increased cross section) cross section (16) but lacks the pipe having a slot. Kubiak teaches a nozzle arrangement comprising a nozzle member (21) with a slot. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the valve arrangement of Tan by manufacturing the nozzle with a slot as taught by Kubiak in order to decrease the possibility of fluid flowing through the nozzle in the reverse direction.

**(10) Response to Argument**

**Tan – Claims 1-5 and 8-10:**

Applicants first argue that Tan does not disclose a suction nozzle arrangement, the examiner disagrees. Since there is no specific structure recited in the claims that define exactly what a suction nozzle is or an structure that may cause any suction (i.e. a vacuum, etc.) then the hole arrangement disclosed in Tan does anticipate Applicants' recited "suction nozzle. Applicants disclosure defines the "suction nozzle" as a pipe (page 5, lines 20-22, Applicant's specification). Tan discloses a conduit or "pipe" between the inlet and outlet of the valve assembly that fluid passes through. Although Tan does not refer to the conduit (36, 38, 40) as a "suction nozzle", the conduit in Tan is inherently capable of performing the same function as the recited "suction nozzle". Applicants further argue that Tan at most includes a "restricted orifice", the examiner agrees. However, one of ordinary skill in the art would acknowledge that the basic definition of a "nozzle" is a "restricted orifice", therefore Tan does disclose what can be considered a "suction nozzle". Since there is no special definition of a "suction nozzle" that sets the claimed structure apart from a conduit with a restricted orifice, then the conduit with a restricted orifice anticipates the recited "suction nozzle". Applicants then argue that the suction nozzle of Tan opens on a region of maximum static pressure and according to Bernoulli's principle would provide no suction, the examiner disagrees. The pressure passing through the valve at the point of the orifice (40) of Tan would be equal to the pressure passing through any point of the flow path of Tan. This is equivalent to Applicants' recited invention. Therefore the fluid passing through each location in the valve would inherently act in the same manner. Applicants also argue that the suction nozzle of Tan is not located in the flow path, the examiner

disagrees. Figure 1 of Tan clearly shows the suction nozzle (36, 38, 40) emptying into the flow path (16). Applicants then argue that the suction nozzle of Tan does not have a bordering wall that is exposed to fluid flowing in the flow path, the examiner disagrees. The lower outside rim (including any wall that may surround the opening) of the orifice of the suction nozzle (36, 38, 40) of Tan is exposed to fluid flowing in the flow path (figure 1 of Tan). Applicants further argue that the suction nozzle of Tan is not directed towards the outlet, the examiner disagrees. Fluid flowing out of the suction nozzle (36, 38, 40) of Tan will flow toward the outlet (16). Applicants also argue that nothing about Tan's pilot valve (20) or restricted orifice (40) blocks a fluid entry into Tan's conduit, the examiner disagrees. The pilot valve element (82) blocks the flow of fluid into the conduit (56) of Tan. Applicants then argue that claim 8 cannot be rejected under 102(b) because it now depends from claim 6 which is rejected under 103(a), the examiner agrees. Claim 8 was inadvertently left in the 102(b) rejection in the final Office action mailed 9/8/2008. This was a typographical error by the examiner. Claim 8 is now included in the 103(a) rejection set forth above as a new ground of rejection. Applicants further argue that the suction nozzle (36, 38, 40) is not directed toward the outlet connection, the examiner disagrees. Fluid flowing out of the suction nozzle (36, 38, 40) of Tan will flow toward the outlet (16). Applicants also argue that the suction nozzle of Tan is not located in a reduced cross section of the flow path, the examiner disagrees. The end of the outlet connection (16) where the threaded connection is located has an increased cross section. Therefore, the suction nozzle (36, 38, 40) of Tan is located in a reduced cross section. Applicants then argue that one of ordinary skill would not consider the location of the suction nozzle (36, 38, 40) of Tan to be located in the outlet connection (16) because it would undesirably reduce Tan's primary fluid passage, the

examiner disagrees. It is unclear to the examiner where Applicant considers the location of the suction nozzle of Tan, but figure 1 of Tan clearly shows the suction nozzle (36, 38, 40) is clearly located in the outlet connection (16). Applicants also argue that Kubiak does not disclose a suction nozzle arrangement, the examiner agrees. However, one of ordinary skill in the art is well aware that changing the shape of a flow path will change the flow characteristics through the flow path. Kubiak is merely being relied upon to teach the shape of the suction nozzle arrangement. Applicants further argue that Kubiak cannot be relied on due the pressure differential between Kubiak's assembly and Applicants' invention, the examiner disagrees. Since no specific pressure within Applicants' assembly is recited, this argument is not commensurate with the scope of the claims and is considered moot. Applicants then argue that the examiner did not provide a reasoning statement as to why Tan can be modified by the teachings of Kubiak, the examiner disagrees. The examiner stated that the reason for using the teaching of the slotted nozzle of Kubiak would decrease the possibility of reversed flow through the suction nozzle of Tan. Applicants argue that changing the shape of an orifice and that change affecting flow reversal is contrary to common sense, the examiner disagrees. Tan discloses an opening with a circular cross section. The examiner would argue that restricting that flow path to make it slotted would decrease the area of the cross section. Any decrease in area would decrease the chance of fluid flowing back through that orifice in a reversed direction. Applicants further argue that the pilot valve of Tan would not seal in the closed position, the examiner disagrees. One of ordinary skill in the art would realize that the cross section of the flow path would change when Tan is using the teachings of Kubiak and would manufacture a pilot valve that would seal in the closed position. Applicants then argue that neither Tan nor Kubiak, nor



their combination, teach a pipe with a slot, the examiner disagrees. Tan discloses a pipe (36) and Kubiak is being used to teach nozzle member (21) having a slot. Finally Applicants direct the board to look at the dictionary definitions of a pipe and a nozzle. Again, Applicants are not giving the broadest reasonable interpretation to the structures recited in their claims. A nozzle is well known in the art as a restricted orifice or an orifice with a reduced cross section. A pipe is well known in the art to be any sort of conduit that has the ability of carry fluids. The restricted orifice and pipe of Tan can be reasonably applied to Applicants recited structure.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

This examiner's answer contains a new ground of rejection set forth in section (9) above. Accordingly, appellant must within **TWO MONTHS** from the date of this answer exercise one of the following two options to avoid *sua sponte* **dismissal of the appeal** as to the claims subject to the new ground of rejection:

(1) **Reopen prosecution.** Request that prosecution be reopened before the primary examiner by filing a reply under 37 CFR 1.111 with or without amendment, affidavit or other evidence. Any amendment, affidavit or other evidence must be relevant to the new grounds of rejection. A request that complies with 37 CFR 41.39(b)(1) will be entered and considered. Any request that prosecution be reopened will be treated as a request to withdraw the appeal.

(2) **Maintain appeal.** Request that the appeal be maintained by filing a reply brief as set forth in 37 CFR 41.41. Such a reply brief must address each new ground of rejection as set forth in 37 CFR 41.37(c)(1)(vii) and should be in compliance with the other requirements of 37 CFR 41.37(c). If a reply brief filed pursuant to 37 CFR 41.39(b)(2) is accompanied by any amendment, affidavit or other evidence, it shall be treated as a request that prosecution be reopened before the primary examiner under 37 CFR 41.39(b)(1).

Extensions of time under 37 CFR 1.136(a) are not applicable to the TWO MONTH time period set forth above. See 37 CFR 1.136(b) for extensions of time to reply for patent applications and 37 CFR 1.550(c) for extensions of time to reply for ex parte reexamination proceedings.

Respectfully submitted,

/John K. Fristoe Jr./

Primary Examiner, Art Unit 3753

**A Technology Center Director or designee must personally approve the new ground(s) of rejection set forth in section (9) above by signing below:**

/DONALD T HAJEC/  
Director, Technology Center 3700

Conferees:

/Robin O. Evans/  
Supervisory Patent Examiner, Art Unit 3753  
/Boyer D. Ashley/  
Supervisory Patent Examiner, Art Unit 3724